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Creating Incentives for Private Infrastructure Companies to Become More Efficient

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Certain factors can maximize the pressure on privatized infrastructure companies to be more efficient: the threat of bankruptcy, internal controls imposed by shareholders, and external disciplines (such as the threat of hostile takeover).



Summary findings

The privatization of infrastructure companies is expected to bring about gains for customers by increasing the efficiency of the privatized company. Because many infrastructure industries are not competitive, attention has focused on the development of regulatory regimes that replicate the operation of competitive markets and so lead to the efficiency gains. Less attention, however, has been paid to other institutional factors that encourage firms to operate efficiently.

Alexander and Mayer study three institutional factors that can, in general, encourage efficiency:

- The threat of bankruptcy.
- Internal controls brought about by executive remuneration schemes and the ability of shareholders to remove underperforming management.
- External disciplines brought about by the operation of the market for corporate control and the threat of hostile takeover.

Applying these three aspects of corporate governance to monopolistic infrastructure firms is not simple. Infrastructure regulation may allow privatized firms to avoid financial problems by raising prices, for example, thus sheltering them from the threat of bankruptcy. And shareholder control may be hindered by restrictions on the proportion of the shares that can be owned by any one shareholder.

Alexander and Mayer offer examples of the ways in which different regulatory, institutional, and governance systems work in different countries, especially in relation to infrastructure companies and provide a checklist of options that should be considered when designing the involvement of the private sector in infrastructure position.

This paper — a product of the Private Participation in Infrastructure Group, Private Sector Development Department — is part of a larger effort in the department to analyze issues relating to private participation in infrastructure. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Randee Schneiderman, room G4-040, telephone 202-473-0191, fax 202-522-3481, Internet address rschneiderman@worldbank.org, March 1997. (37 pages)

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Creating Incentives for Private Infrastructure Companies to Become More Efficient

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1. Introduction

Two reasons are traditionally proposed for privatising utility or infrastructure companies. First, the state is unable to finance the investment needs of the company owing to budget constraints and, second, privatisation brings about efficiency gains through the imposition of incentives on the owners and managers of the company. This paper is concerned with studying the latter topic.

Incentives can take several forms. First and foremost is the threat of bankruptcy. If a privatised utility faces the threat of bankruptcy its owners should ensure that the company operates efficiently to protect it from this outcome. The question of bankruptcy is linked to the question of regulation. Alternative incentives also exist. Where companies are quoted, the stock market may place financial disciplines on the company to ensure that it is operated efficiently. Quoted and non-quoted companies may face similar pressures from the debt markets if finance is raised in this way. Finally, the owners of the company may be in a position to exert direct influence over the management through their ability to remove poorly performing executives.

Each of these types of incentive for efficiency is addressed in this paper. Section 2 considers the question of bankruptcy. Section 3 considers financial market disciplines and Section 4 considers direct shareholder discipline. Section 5 draws out the major implications of the paper and concludes.

2. Bankruptcy

Once a company has been privatised, the ultimate risk that it faces bankruptcy. It is important, however, to draw a distinction between the different forms of privatisation, of which two are important to consider:

- sale of the assets to private individuals or companies;
- franchising of activities.³

The latter form is of particular importance in developing countries. This section will concentrate on the former approach, but will return to the question of franchising at the end of the section.

2.1 The role of bankruptcy

For any normal private company in a competitive market, the incentive for the management to operate the company efficiently is provided by the fact that failure to do so will lead to bankruptcy. Infrastructure companies face a different situation since, on the whole, they do not face a competitive product market. This means that the pressure to operate efficiently is likely to be weakened, depending on various factors, such as the substitutability of the product. It is for this reason that most privatisations of infrastructure companies are accompanied by the introduction of formal price regulation which seeks to mimic the pressure of the competitive market place.

If infrastructure companies face the risk of bankruptcy, therefore, it is only as strong a threat as the ability of the regulator to mimic the competitive market. This may be

³ Here, both the franchising of the operation of existing assets and the build, operate and transfer franchises are included. The latter are especially important in developing countries, particularly in south-east Asia.

possible where sufficient information is available and the structure of the industry lends itself to the establishment of a competitive counter-factual on which to base the price regulation. However, even in highly disaggregated markets where data is plentiful (such as the UK regional electricity distribution businesses), the regulatory system is still perceived to be imperfect at mimicking competitive prices. This was evidenced by the need to re-open the price review less than one year after the latest five-year price cap had been established.

Bankruptcy may, therefore, be an element of the incentive placed on the infrastructure company, but this incentive will be only as good as the regulation imposed on the company if there is little or no competition in the market for that company's product.

The interaction between the risk of bankruptcy and the regulatory system deserves further attention. The way in which a company can be forced into bankruptcy differs, according to the type of regulation. Table 2.1 considers two types of regulation and the ways in which regulatory intervention could cause financial distress.

Table 2.1: Regulatory regime and the cause of bankruptcy

Regime	Possible causes of bankruptcy
Rate of return	Disallowal of investment from the rate base
RPI – X	Unanticipated cost shocks

Another important element that needs to be considered is the way in which bankruptcy is treated by the legal system in a country. Great differences can exist between countries which could have an impact on whether infrastructure companies are allowed to go bankrupt. Consider the information set out in Table 2.2.

Table 2.2: Bankruptcy laws in various countries

Country	Characteristics of bankruptcy system
US	Chapter 11 bankruptcy protection allows companies to undergo both financial and operational restructuring so that they can continue to supply their products while a rescue package is established.
UK	Receivership frequently leads to asset sales and the closure of companies rather than their continuation as operating units. The rights of debt investors to recoup their funds is seen to be paramount, although some recent evidence (for example, Leyland DAF, Canary Wharf) may point to more emphasis being placed on continuing the operations rather than recouping funds.
Germany	Formal bankruptcy proceedings are expensive and frequently lead to the company being liquidated. Banks try to ensure rescue packages happen prior to the need for formal bankruptcy.

The ability to continue a company's operations within the period of bankruptcy is therefore important. This subject is returned to in the following sub-section under the wider remit of regulation. One example of a US energy company that underwent Chapter 11 proceedings is the El Paso Electric Company. This company was forced to file for bankruptcy in January 1992 owing to the uneconomic nature of its relationship with the Palo Verde nuclear power station.⁴ The Public Service Company of New Hampshire, another electricity utility, filed for Chapter 11 bankruptcy in 1988, again because of nuclear power-related contracts, and emerged as a stand-alone company in 1991. It subsequently merged with Northeast Utilities in 1992.

2.2 Impact of regulation

The discussion in the sub-section above was based on the notion that infrastructure companies face an actual threat of bankruptcy. Is this a realistic assumption? There are

⁴ This case is examined further in Section 4 since a hostile bid was launched for the company during its Chapter 11 proceedings.

several important reasons to believe that, even if this risk does exist the wider role of regulation, over and above that of mimicking the competitive market, actually blunts this incentive.

Several key questions need to be addressed.

- Are infrastructure companies legally allowed to go bankrupt?
- What is the role of the regulator if a company were to find itself in financial difficulty?

Each of these questions will be considered in turn.

2.2.1 Legal restraints

Are infrastructure companies allowed to go bankrupt? Since the majority of infrastructure services are viewed as vital to the well-being of a country (for example, the provision of fresh water or electricity), the company actually providing the service may legally not be permitted to go bankrupt. This is clearly the case in France where the state-owned utilities are covered by a law which prevents them from becoming bankrupt, presumably by forcing the state to bail them out as required. This approach, however, is unlikely to be directly applied to private companies, since it would create an adverse incentive for the management of the company.

It is more likely that there will be a legal restraint placed on the provision of the service and enforced by the regulatory body. How this restraint is interpreted is likely to differ from industry to industry. If the bankruptcy of a single company did not call into question the ability to provide a service—since a new provider could be licensed and in place before any disruption of service occurred—then bankruptcy would be a realistic threat to a company. Certain infrastructure services, such as telecommunications, could be seen to be open to this type of

threat. However, if the removal of one incumbent operator and its replacement caused problems, in terms of the provision of an essential service, then it is unlikely that the regulator would allow a company to go bankrupt. Even where a fire-sale of the assets could take place, so that all that changes is the ownership of the assets, it is possible that unacceptable disruption will occur.

The ability to replace a company depends on the existence of alternative operators. Where a national monopoly exists, it is unlikely that replacement could be carried out seamlessly, even if international alternative operators exist. However, where the industry is operated by a series of companies or regional companies, it should be possible for a credible alternative to replace a bankrupt company. A similar story is found when an infrastructure company fails to meet its performance criteria. Unless credible alternative operators exist, there is little that the regulatory body can do to replace the operator. It would appear, therefore, that only in a limited number of circumstances is it likely that a private infrastructure company will be allowed to go bankrupt.

2.2.2 A wider remit for regulators

Linked to the discussion above of the allowed disruption of essential services is the fact that regulators often face wider remits than simply mimicking the competitive market. This wider role can be seen in two ways:

- creating an environment within which investment can take place;
- protecting the security of supply for a customer.

In the Introduction, the two reasons for privatisation were discussed. The first of these, using private funds to meet investment needs, is inextricably linked to the role of regulation in several countries. Where privatisation has occurred to allow a company access to the financial markets to fund investment, the regulatory body is often expected to provide an environment in which the investors will feel secure.

One interpretation of this is that there is a limited risk of bankruptcy. In the UK this requirement is reflected through the fact that the regulatory bodies are legally required to ensure that companies can *finance their functions*. Although this does not provide a total safeguard against bankruptcy, it does ensure that the risk to the investor is limited.

This requirement can be seen in other countries where the regulatory bodies have allowed companies to recover stranded costs to ensure that the environment is suitably positive to allow future investment to occur. In the US this is an ongoing debate linked to the nuclear electricity generation assets. In one case, the State of New York was prepared to purchase an electricity company rather than see it fail under the burden of debt created by a nuclear power station that is never going to be operated.

The second way in which the wider remit has been seen is linked to the question of the ease with which one provider could be replaced with another. There is also a quality question, driven by environmental and health requirements, which means that regulatory bodies need to follow a lenient path.

Obviously, the health and environmental question is more important in some sectors than in others. Water and sewerage provision is the most obvious sector where the protection of the public is likely to override simple efficiency-based considerations. In contrast, in telecommunications efficiency generally dominates wider social goals.

2.3 Contracts and appropriation

In the introduction to this section, the role of franchises was also discussed. In many ways, these allow the chance of bankruptcy to be more of a threat, since the aim is to

return the assets or licence to the government or regulator at some point in the future. The link between the management and ownership of the infrastructure assets is, therefore, already weakened relative to that experienced in the flotation of an infrastructure company.

Franchises, or concessions, leading to the return of an asset to the authorities are common in many developing countries and elsewhere. The form of concession (for example, build, operate and transfer or build, operate, own and transfer) will affect the link between management and ownership, as will the length of the contract. However, when this type of franchise exists, it would be normal for the granting authority to establish performance criteria against which the operation of the project can be assessed. If these targets are not met, the authority would be able to default the project and take control of the assets without making any compensation payments to the concessionaire.⁵

Not only will these act as a direct incentive on the company to ensure that it operates efficiently—even without a formal distinct regulatory body—but it is also likely to have an impact on the covenants set by any debt investors. There is no point in establishing covenants which are based on targets that are weaker than those established by the franchising authority. This point is revisited in Section 3.3.

A similar effect can be achieved by having termination or re-opener clauses in licences. These allow the licensing authority to break the contract if the company has failed to meet its obligations in some way. Of course, the re-opener clause can also be used to protect the company, with the licensing authority able to alter the contract in the operator's favour, if so desired. Even when formal contract re-openers do not exist, it is possible for the company to force a contract renegotiation to raise the price. This has happened in some franchise operations.

⁵ A discussion of how this might work is provided in *An Outline Structure for Build Own Operate Schemes*, Engineering, Water and Waste Directorate, The Scottish Office, September 1994.

Contract terminations do not happen only when a clause has been broken. Termination without cause is allowed although there may be constraints on how early in a contract it can happen—the norm is for at least half the contract period to have expired before a no cause termination is allowed—or a specific period of notice has to be given, for instance, ten years in the UK, or two to three years in France. Allowing periodic challenges to the franchise ensures that the right incentives for efficiency always exist. A similar effect can be achieved by fixed period contracts that are shorter than the asset life. This device is being employed in the case of the Scottish Water franchising.

3. Financial Market Disciplines: Internal Controls

Since the threat of bankruptcy appears to be limited for the majority of infrastructure companies, what other incentives can be placed on companies to become efficient? As discussed in the introduction, there are ways in which the financial market can be used to achieve efficiency in the product market. These can effectively be split into external and internal pressures. In this section, the internal controls will be examined and, in the following section, the external controls are considered.

Internal controls can be split into two types, incentives and disciplines—effectively, carrots and sticks—that can be applied by investors.

3.1 Remuneration and incentives

One way of providing incentives for a company to become efficient is through the design of the remuneration package for the managers of the company. By linking an element of the management's remuneration to the success of the company, it is possible to create an incentive for the company to be run efficiently.

Consider the following example.⁶

Canadian National Railway (CNR), the larger of the two Canadian rail infrastructure companies, is due to be privatised later this year. Its operating ratio is 88%, 6% above that of the average of the seven main US rail companies—these are considered to be the most appropriate comparators. Management has been provided with an incentive to lower CNR's operating ratio to the level of its competitors, since if the management fails to achieve that level of ratio by the year

⁶ This story was reported in the *Financial Times*, September 1995.

2000, it will be denied some of the benefits of the share option scheme. The use of high-powered financial remuneration linked to a specific performance criteria therefore provides a strong incentive for the company to become more efficient.

This is one example where the government has set the management incentives prior to privatisation. It would also appear that this is an unusual situation. However, it does not matter if the incentives are set by the authority privatising the company or the owners of the company once it is in private hands. It also does not matter whether the company is quoted or not, since it is possible for owners to establish performance-related bonuses based on any number of criteria, not necessarily just on share price—as illustrated in the above example of CNR.

While it is possible for owners to provide management with incentives, this does not necessarily happen. In both the UK and US share options, the standard ‘bonus’ for executives is issued irrespective of performance. This has been the focus of much debate, with moves in the UK to separate both the granting of share options (the Cadbury Committee on Corporate Governance proposed remuneration committees staffed by independent non-executive directors) and the level of option (effectively making them into performance-related bonuses, as suggested by the Greenbury Committee on Executive Remuneration). Some changes in the infrastructure sector have already been seen.

Consider the following example.⁷

As of January 1st 1995, British Gas awards its executive directors bonuses in the form of long-term share options. The amount of options accredited to a director lies between 33.3% and 125% of base pay, depending on several factors. The share options are then held for three years. At the end of the three-year period the

⁷ The information for this example was taken from British Gas’s 1994 Report and Accounts and a subsequent press release entitled Long Term Incentive Scheme Notional Allocation, 16th October 1995.

performance of the company is assessed and, depending on the performance, a percentage of the share options is vested to the director. Table 3.1 sets out the performance criteria and the amount released—two sets of figures are shown since the initial proposal was amended after institutional shareholder representations concerning the ease with which the targets could be met. These options are held for a further two years before they are released to the director.

Table 3.1: British Gas's performance-related pay system

British Gas's ranking	1–25	30	40	50	60	61+
Options vested (%)						
Initial	100	100	87	75	40	0
Amended	100	92	75	40	0	0

Note: The ranking is based on the company's position in the FTSE 100—the share price index of the top 100 UK companies by market capitalisation. The amount of options vested is pro-rated between the points shown.

However, the approach set out in this example appears to be the exception rather than the rule. This is not restricted to just the UK and US. Recent European infrastructure privatisations have been accompanied by the introduction of share options with no performance-related control. (See, for example, KPN, the Dutch Postal and Telecommunications company privatised in 1994, where 1m shares were set aside at the flotation for the creation of an executive share-option scheme.)⁸

As mentioned earlier, it is not necessary for the company to be floated for such an incentive scheme to be established, although other performance criteria must be employed rather than the share price. Railtrack, the UK rail infrastructure company due to be privatised in the coming years already operates an executive performance-related bonus system where payments of up to 40% of the basic salary can be made if the company achieves pre-specified targets—currently, the company only pays bonuses at 25%. This

⁸ Information pertaining to this is contained in note 37 of the company's 1994 Annual Report.

approach may be more usual in countries where there is less of a history of entrepreneurial stock-market-based capitalism. Several factors, such as the institutional framework and the tax regime, are bound to influence the way in which performance bonuses are established.

3.2 Shareholder intervention

Apart from the carrot of incentive-based remuneration, shareholders have an ability to discipline management because they have the power to remove executive directors. This method of providing incentives depends to a large extent on the shareholders having the power to monitor the management of the company and to censure effectively. Although the shareholders are the ultimate owners of a company, their ability to co-ordinate and exert pressure on the management is affected by several factors.

Key to the ability to both monitor and influence is the level of concentration of share ownership. Where there is either a dominant, but not necessarily majority, shareholder or a small group of significant holders, they are more likely to be able to influence the management of the company. The likelihood of such investors existing depends on two factors:

- the way the company was privatised;
- the institutional environment in the country.

These are considered below.

3.2.1 Privatisation and the concentration of ownership

The way that infrastructure companies are privatised is bound to have an impact on the existence of a major shareholder. Three basic models of privatisation exist:

- full or majority sale, with an emphasis on individual investors (UK model);
- flotation of a minority stake (Continental European model);
- trade sale of a minority stake, with the aim of a flotation in the future (Latin American model).⁹

The choice of model is bound to affect the likelihood of a major investor, or group of investors, existing. Table 3.2 provides an example of an industry where all three forms of model were adopted within a single country.

Table 3.2: The Chilean electricity industry

Model	Companies	Comments
Full or majority flotation	Enersis	All were sold in tranches, with emphasis on employee participation
	Endesa	
	Chilgener	
	Chilquinta	
Minority share package	Colbun	
	Edelnor	
Trade sale	Pilmaiquen	The first three were standard trade sales, while the fourth (Emelsa) was a work-force buy-out
	EMELAT	
	EMEC	
	Emelsa	

Source: *Utility Privatisations in Developing Countries: Opportunities for Investors*, OXERA, 1994.

Another interesting example of privatisation in Latin America is provided by the Bolivian electricity company, ENDE. Here, the Board of Directors has been weighted towards the strategic investor, even though a 50:50 equity split was

⁹ For example, the two Argentinian telecommunications companies, Telecom Argentina and Telefonica de Argentina, were subject to trade sales of 60% of their equity followed two and one years later, respectively, by 30% public flotations.

enacted between the strategic investor and the public pension fund holding.¹⁰ This should help to ensure that the strategic investor is able to exert influence over the management of the company.

Building a 'core' of long-term major shareholders is a policy that has been adopted by some European countries as part of their privatisation process. France employed this in its non-infrastructure privatisation in the 1990s. Spain has also used this approach, with its telecommunications monopoly, Telefonica. Here, three Spanish banks hold a joint 9% stake and are committed to raising this to 15%. Since the banks intend to be major debt investors also, this places them in a powerful monitoring position.

3.2.2 Institutional factors

There are a number of institutional factors which can either exacerbate or mitigate the problem. The principal factors are:

- the prevalence of major corporate shareholders;
- the level of activity of institutional shareholders;
- shareholder associations;
- shareholder limits.

In some countries—especially France, Germany and Japan—it is normal for large corporate shareholders to hold stakes in other companies, either as strategic investments or as part of a cross-shareholding alliance. These stakes are often in excess of 20%. Concentrating such a large degree of ownership with one investor allows that investor to exercise considerable power.

¹⁰ This case is discussed in *Capitalization Monitor*, 2:12, July 1995, published by the Ministry of Capitalization in Bolivia.

Where this type of shareholding is less prevalent, especially in the UK and US, the problem of a widely spread shareholder base can be overcome by the existence of proactive institutional shareholders. The dominant equity investor type in the UK and US are financial institutions (for example, pension funds and open- or closed-end investment funds). These institutions are able to exert influence because of their size. However, traditionally, in the UK, in particular, and to some extent in the US, financial institutions have only been concerned with the returns that they earn, rather than the management of a company. If the returns proved less than satisfactory, the institution would prefer to walk away rather than attempt to reform the company.

This situation has been changed by the emergence of proactive investors. In the US this is typified by CalPers, the Californian State Pension authority, and in the UK by Hermes¹¹ and Pension Investment Research Consultants (PIRC). Shareholder activism is not new, several cases exist in the UK and numerous ones in the US, but it is becoming more evident.

In the UK there is little evidence of shareholder activism affecting infrastructure companies before this year—evidence on wider activism is limited and is discussed in Section 3.2.3. However, during this year there have been serious revolts over the issues of corporate governance and remuneration in the water, electricity and gas industries. These revolts have not gone as far as the removal of directors, but they have caused changes. The remuneration system described above for British Gas was introduced because of a public outcry over the remuneration package of the company's chief executive.

Another force for shareholder pressure that is growing, especially in the US, is associations of shareholders. Although any one individual shareholder may be unable to influence the company, owing to the size of their holding, a group of

¹¹ Formerly PosTel, the pension fund of the Post Office and telecommunications workers.

shareholders have more influence. These associations can either exist as general watchdogs, or be constituted in response to a specific event.

Outside the model of the UK and US, there is a similar form of shareholder monitoring, but it is carried out by banks on behalf of individual shareholders. In Germany, for example, the majority of shares are 'bearer shares' that are lodged by individuals with banks which can then exercise the voting rights of the shares. This places great power with the banks, which, when linked to the debt monitoring described in Section 3.3 below, allows them to exercise considerable influence over the company.

A final set of institutional impediments to shareholder disciplining of management relate to shareholder controls. Many privatisations involve the establishment of shareholder limits (normally 15% of the voting equity) above which no individual shareholder can go. Also, stock-market rules often limit the size of an individual's maximum holding before a takeover situation is triggered. The latter is very much a product of the UK and US model of stock-market rule, while the former is widely prevalent and is discussed in detail in Section 4.

3.2.3 Evidence from the UK and Germany

Having considered how shareholders may be able to influence and provide incentives to private companies it is worth considering some of the available evidence. Although there is little evidence specific to infrastructure companies, some information of a more general nature is available from sources including:

- an unpublished study undertaken by OXERA of shareholder actions within UK companies in the 1980s and early 1990s;
- academic research into corporate governance and shareholder activity.

Table 3.3 sets out the results of OXERA's study of shareholder actions in the UK. Thirty cases were found where some form of investor or non-executive director-led activity occurred. Table 3.4 then provides some information on the composition of the shareholders involved with these 30 companies.

Table 3.3: Shareholder actions in the UK

Initiator of action	One shareholder	Group of shareholders	Bank	Bank and shareholders	Non-executive directors
Number	3	12	1	9	5 ^a
Outcome	Chairman and chief executive resigns ^b	Chairman resigns	Chief executive resigns	Other directors resign	Non-executive directors appointed
Number	12 ^{c,d}	15	3	10	2

Note: ^a This includes one case where a major shareholder joined with the non-executive directors in initiating an action. ^b This includes cases where the roles of chairman and chief executive were combined. ^c One of these was dismissed after losing a court action brought by a shareholder. ^d In two of the cases a single individual undertook both the role of Chairman and Chief Executive.

Source: 'Boardroom Battles: The Role of the Institutions', mimeo, OXERA.

Several causes exist for the shareholders actions given in Table 3.3. Most important among these are:

- sustained losses;
- poor share price performance;
- boardroom splits;
- perception of unreasonable behaviour by the management.

Having undertaken an action, the normal response was the restructuring of the board of directors, either with the role of the chairman and chief executive being split, or members of the board having to resign.

Table 3.4: Evidence on shareholder action in the UK

	%
Average total shareholding by large shareholders in the sample companies	23.1
Lowest total shareholding by large companies	0.0 ^a
Highest individual shareholdings:	
Pegi Malaysia Berhad	26.0
Walker family	25.8
ITT (UK)	24.3
Average number of shareholders holding 10% or more in the sample	0.7
These shareholdings were held by:	
Financial	11
Corporate	8
Individual	2

Note: ^a This occurred in five of the 29 cases. A further case had no shareholder information available because it was a private company.

Source: 'Boardroom Battles: The Role of the Institutions', mimeo, OXERA.

As can be seen from Table 3.4, the largest shareholders were still only significant minority shareholders, with no single investor holding more than 30%, and the average holding of all large shareholders being less than 25%. This is reinforced by the fact that, on average, there was less than one shareholder holding more than 10% per company in the sample. Where holdings of more than 10% did exist, they were fairly evenly split between financial institutions and other corporate entities. Very few cases were found where individual shareholders held 10% or more of the equity.

The evidence from the UK suggests that actions by shareholders are not uncommon. However, it must be borne in mind, of course, that this covers a period of between 11 and 12 years. An important implication of this study is that

shareholders find it easiest to coordinate when there are a small number of significant stakes in the company. An alternative, that of shareholder associations, is likely to be as successful at instigating actions. However, these associations are not as prevalent as major shareholders.

Similar information relating to shareholder actions is not available for any other economies. However, there is evidence available from several academic studies relating to the influence of major shareholders in other countries. Table 3.5 provides information on major investors in German-quoted companies.

Table 3.5: Major German investors

	%
Companies with no single large shareholder ^a	14.6
Companies with a major shareholder	85.4
Where a large shareholder does exist, it is:	
another German company	32.2
a family group	24.0
a foreign company	11.6
a bank	6.8
other	25.4

Note: ^a A large shareholder is defined as holding 25% or more of the equity of a company. This covers a study of 171 quoted industrial and commercial companies.

Source: Franks, J. R. and Mayer, C.P. (1994), 'Corporate Control: A Synthesis of the International Evidence', August.

The fact that so many significant shareholders exist suggests that they should be in a position to monitor the management of the company. Evidence reported in Edwards and Fischer (1994) on the shareholder representatives on supervisory boards of Aktiengesellschaften in 1979 with more than 2,000 employees is given in Table 3.6.

Table 3.6: Shareholder representatives

Type of shareholder representative	% of total shareholder seats
Domestic non-banks	39.7
Of which:	
holding more than 50% of equity	13.1
holding up to 50% of equity	8.1
holding no equity	18.5
Domestic banks	16.4
Of which:	
holding more than 50% of equity	0.7
holding up to 50% of equity	0.4
holding no equity	11.3
Foreign firms	5.9
Government	13.2
Of which:	
holding some equity	11.7
holding no equity	1.5
Private shareholders	5.7
Small shareholder associations	1.5
Former top executives	4.2
Consultants	13.5
Total	100.1 ^a

Note: ^a This total does not sum to 100, owing to rounding errors.

Source: Edwards, J., and Fischer, K. (1994) *Banks, Finance and Investment in Germany*.

Table 3.6 illustrates that major shareholders or their representatives, for example, banks, are represented on the supervisory boards of German companies, so are able to exert influence in a similar way to UK shareholders through non-executive directors.

3.2.4 Summary of shareholder activism

Overall, it would appear that shareholders are able to influence management and provide incentives to them, but such action has not been used widely in the past. This may have been due to the problem of coordination when widely held investor bases exist, which is, in turn, a consequence of the way in which companies were privatised. Where there are single dominant minority holdings, these problems are lessened.

3.3 Covenants and debt monitoring

A final source of investor pressure for efficiency is provided by the covenants attached to debt issues by infrastructure companies. Whether the debt is raised in the Euro-, domestic bond, bank or syndicated loan markets, there will be covenants attached. These typically take the form of maximum levels for various financial indicators, such as gearing (leverage) and interest cover.

If these levels are breached, then the lenders have the right to call in their bond and force the company either into insolvency or into a costly new financing issue. One example of an infrastructure project breaching its covenants is that of Eurotunnel, the largest single infrastructure investment in Europe. Owing to cost overruns and additional safety requirements, the covenants on the debt of £6 billion were broken. However, rather than call in the loans and bankrupt the project—which in theory the banks could have done—a new financing package was agreed which included a substantial injection of equity (£850m was raised through a rights issue). If the banks had called in their loans, then either a separate refinancing package would have to have been agreed, or a buyer for the project found. Either option would have involved substantial delays to the construction process and, therefore, a further loss of value for the banks. This point is returned to later in this section.

An alternative that is becoming increasingly popular, especially for syndicated loans, is to base the interest rate paid on a pre-set scale according to the level of the financial indicators. These ‘ratchet’ agreements provide the company’s management with incentives, since it will face higher financing costs if the financial profile of the company deteriorates, thus leaving less funds for shareholders and bonuses—be they share options or performance-based.

However, covenants are placed on debt finance to protect the investor rather than give the company incentives. While covenants obviously help to provide incentives since companies do not want to see the debt being called in, this is secondary in terms of the way in which the incentives are established. The lenders therefore set maxima which ensure the funds lent are safe—not values designed to push a company towards efficiency. Owing to their nature, infrastructure projects may be afforded even greater protection than other projects since, even though the debt investors could take control of the project, the sunk nature of the investment means that such an action is unlikely to boost the resale value. Clearly, management change may be necessary if the breaching of the covenants was deemed to result from management inefficiency. The Canary Wharf property development in London hit similar cost overruns to that of the Channel Tunnel, and was in breach of its covenants. However, rather than allow the incumbent management to continue, the banks declared the project bankrupt, ousted the incumbent management and then refinanced the project under new management. This should act as an incentive for the management.

It should also be borne in mind that, in cases where a franchising authority is also setting performance criteria and targets, any covenants established by investors will need to be more stringent to ensure that the investors have the opportunity to take control and replace the management, rather than let the franchising authority appropriate the assets with no compensation paid to the investors. (This is discussed in more detail in Section 2.3.) This should also act as an incentive on the management of the project.

4. Financial Market Disciplines: External Controls

Since it would appear that equity investors have a limited ability to monitor and discipline companies' management (and especially 'protected' utility companies), a final alternative disciplining factor needs to be considered. This final factor is capital market competition (ie, the takeover market). This section considers the role of the market for corporate control and possible impediments to its operation, both in general and for utilities in particular.

4.1 The market for corporate control

If the product market is unable to discipline companies and direct shareholder action is difficult, then a final incentive that may force companies to become efficient is the threat of hostile takeover. Unless shareholders are satisfied that the company's management is delivering all the possible efficiencies, they will be willing to sell their shares, at a premium, to a company which feels that it can achieve those efficiencies.

With this threat hanging over the company, it is expected that the management will strive to achieve all the efficiencies, so ensuring that they are not unseated by a hostile takeover.

The following three subsections will investigate whether there are any impediments to the working of the market for corporate control (both specific to infrastructure companies and more generally) and the available evidence on hostile takeovers among utility companies.

4.2 Impediments for infrastructure companies

The discussion in Section 3.3 raised several factors which could limit the application of the market for corporate control as an incentive device for the privatised infrastructure companies. Table 4.1 sets out these impediments and lists some examples of their use.

Table 4.1: Impediments among the infrastructure companies

Measure	Impact	Examples
Trade sale	No market for corporate control	Popular in developing countries (for example, electricity generation, gas transmission and gas distribution in Argentina)
Golden or special share	Government has the ability to veto certain corporate decisions	Utility privatisations in the UK, Copenhagen airport, KPN (The Netherlands)
Maximum shareholder level	No individual, or 'concert party' of shareholders can control more than 15% of the voting equity. Control cannot, therefore, be purchased	Utility privatisations in the UK, Copenhagen airport
Government is majority stake-holder	Acquisition can only be achieved with the approval of the government	Developing countries (for example, Telekom Malaysia), Vienna airport
Dual-class shares	Voting rights and ownership restrictions can be placed on different classes of equity	Developing countries, strategic industries (for example, TelMex, TeleDanmark) ^a

Note: ^a TelMex had three classes of equity after privatisation—AA, A and L shares—each giving different voting rights and were open to different groups. For example, AA conveyed the greatest voting rights and could only be held by Mexicans. TeleDanmark used a separate A share as the first step to privatisation. These were then converted into ordinary shares at a later date. One important factor behind the existence of dual-class shares is the institutional attitude towards them. In the UK-quoted companies are discouraged from establishing dual shares, since they are seen to affect the liquidity of the stock and also raise serious corporate governance questions.

There are several possible infrastructure-specific impediments which may be established during privatisation. These may inhibit the incentive pressure applied by the market for corporate control.

4.3 General impediments

Not only are there specific controls on hostile takeovers, but also more general ones which fall into three possible categories:

- measures to control anti-competitive practices;
- legal measures to protect incumbent stakeholders;
- country-specific controls on takeovers.

These are investigated below.

4.3.1 Control of anti-competitive practices

Although the market for corporate control is considered to be a driving force behind incentives for efficiency, this is not necessarily conveyed into lower prices. Where a company is expected to have a dominant product market position after an acquisition, some form of anti-competitive practice review is expected. In the UK, this is undertaken by the Office of Fair Trading and the Monopolies and Mergers Commission (MMC); in Germany, by the Monopolies Commission and, at the EC level, by the relevant directorate. Since infrastructure companies are often subject to price regulation, this is unlikely to be seen as a major problem, although the loss of information afforded by some types of takeover can lead to requests for significant price-cuts.¹²

¹² A good example of this is provided in the UK by the hostile bid for Northumbrian Water launched by the French multi-utility, Lyonnaise des Eaux. After an MMC inquiry into this proposed takeover, a significant price-cut of between 15 and 20% was requested to compensate the regulatory body for the loss of a comparator, later dropped to 15% by the Department of Trade and Industry. Effectively, a quality–quantity trade-off was being enforced by the MMC.

One aspect of this that requires consideration is the problem raised by the lack of competition in infrastructure networks. Takeover activity may be expected to ensure efficiency, but the lack of competition in networks may lead to the need for structural regulation to ensure that anti-competitive practices are not undertaken through transfer pricing and misuse of information. These structural barriers, which are likely to involve the need for vertical separation, act as a block on part of the working of the market for corporate control. Many of the takeovers of UK utility companies in the last year have contained an element of vertical integration.

4.3.2 Legal controls

Different countries have different levels of legal hurdles for hostile takeovers to overcome if the takeover is to be allowed to continue. These legal controls cover elements including the equal treatment of all shareholders and the provision of information. The range of legal barriers which exist vary from the UK, which is relatively open¹³, to the US, which is relatively closed. These sort of controls are often mixed with the attitude towards the existence of dual classes of shares, alternative voting rights etc.

4.3.3 Country-specific controls

Last, and possibly most importantly, is the influence of country-specific attitudes to hostile takeovers. Economies of the style of the UK and US place great emphasis on the market for corporate control as a means of ensuring efficiency, while other economies view it as unnecessary. The prevalence of hostile takeovers in countries such as Germany and Japan is very low—less than five hostile bids have ever been made in Germany. This not only protects the companies from hostile bids from other domestic companies but also provides a defence against foreign hostile bids. An alternative cultural block is the existence of cross-shareholdings between companies. This is standard in France, Italy and Japan, and

¹³ There are few legal obstacles to takeovers in the UK. However, in the US, certain states, such as Delaware, have a range of laws that can be used to protect shareholders and management.

has been used in Belgium to concentrate the effective control of the gas, electricity and cable industries for the government under one company, Tractebel.

4.4 Evidence on hostile takeovers of infrastructure companies

Overall, it would appear that the market for corporate control is a limited incentive for management owing to the existence of impediments which are specific to infrastructure and other more general impediments to the smooth operation of the market. This does not mean, however, that hostile takeovers have not occurred or that the threat of them is not enforcing managerial efficiency. Certain conditions need to be met before this type of corporate activity occurs:

- some, or all, of the impediments to takeover are removed;
- regulatory or competitive pressure forces rationalisation in an infrastructure sector.

Examples of takeovers occurring after both these conditions have been met are explored in this subsection.

4.4.1 Removal of impediments

When the electricity and water industries were privatised in the UK, rather than establish impediments that would last indefinitely (as is the case in gas and telecommunications), the government set specific lives for the impediments. They are summarised in Table 4.2.

Table 4.2: Removal dates for barriers to takeover

Sector	Golden share	15% rule ^a
Water	December 31st 1994	December 31st 1994 ^b
Regional electricity companies	March 31st 1995	March 31st 2000

Note: ^a Without the golden share, the 15% rule can be removed, provided that the required majority vote is in favour of such a resolution. Several of the regional electricity companies (RECs) which have removed their 15% rules as artificial barriers to takeover are viewed as a poor defence by investors. The golden shares that were established were there to provide the government with a residual control over the company. It could veto certain types of action and ensure that the company continued to deliver the service that it had been established to provide. ^b One of the ten water and sewerage companies, Welsh Water, has an indefinite 15% rule, although it can be removed by the shareholders.

Around the time that the impediments were removed, several takeover bids were launched, not all of which were friendly¹⁴. This phenomenon is not limited to infrastructure companies. For example, when the controls on the number of franchises that independent television companies are allowed to hold in the UK were being relaxed, several friendly and hostile bids were announced. Table 4.3 provides details on the hostile bids in the UK.

¹⁴ Table 4.3 details all the bids made since the removal of the controls. By December 1996 only two independent RECs out of the 12 originally privatised existed.

Table 4.3: Hostile bids in the UK

Bidder	Target	Comment
<i>Electricity</i>		
ScottishPower	Manweb	Acquisition of an English REC by the vertically integrated Scottish company.
Southern Electric International (US)	South Western Electricity	Initial hostile bid, now friendly.
PowerGen	Midlands Electricity	Friendly bid. Referred to the MMC owing to implications of vertical integration. Allowed to proceed but then blocked by the President of the Board of Trade ^a .
National Power	Southern Electricity	Friendly bid. Referred to the MMC owing to implications of vertical integration. Allowed to proceed but then blocked by the President of the Board of Trade ^a .
Central and South West Corp. (US)	SEEBOARD	Friendly bid.
General Public Utilities & Cinergy (US)	Midlands Electricity	US bid made after the MMC blocked PowerGen's earlier bid.
Southern Electric (US)	National Power	Bid aborted after the British Government announced that it would not waive its golden share in National Power.
Dominion Resources (US)	East Midlands Electricity	Initially hostile bid that became friendly. No referral made.
Entergy (US)	London Electricity	Friendly bid. No referral made.
CalEnergy (US)	Northern Electric	Hostile bid. Finally turned friendly in December 1996.
<i>Water^b</i>		
Lyonnaise des Eaux (French)	Northumbrian Water	Bid referred to the MMC. Allowed to proceed provided price cuts were agreed between the regulator and the company. A 15% cut over several years was agreed.

Notes:

^a The President of the Board of Trade is the Minister responsible for the Department of Trade and Industry in the UK.

^b This only covers the privatised water and sewerage companies, not the smaller private water-only companies which have seen extensive merger activity since 1989.

Table 4.3: Hostile bids in the UK (cont.)

Bidder	Target	Comment
Severn Trent	South West Water	Referred to the MMC and then blocked on the grounds of the loss of information for the regulator and its ability to undertake comparative competition.
Wessex Water	South West Water	Referred to the MMC and then blocked on the grounds of the loss of information for the regulator and its ability to undertake comparative competition. Additionally, the contiguous border between the companies meant that possible real competition between the companies would be lost.
<i>Multi-sector</i>		
Trafalgar House	Northern Electric	Bid lapsed when price review reopened. No new bid made
Hanson	Eastern Electricity	Friendly bid. Company due to be demerged early in 1997 as part of the break-up of Hanson. The new company will comprise US coal mining, Eastern Electricity and UK generation assets.
North West Water	NORWEB	Hostile bid, now friendly
Welsh Water	SWALEC	Second bid by a water company for an electricity company.
ScottishPower	Southern Water	Another acquisition for the Scottish vertically integrated company.

4.4.2 Competitive or regulatory pressure

Distinguishing between the condition explored in Section 4.4.1 above and this condition is not as clear-cut as could be expected. Some of the above bids—especially that of ScottishPower for Manweb—are caused as much by the need to exploit economies of scale and scope as they are by the fact that a company's

management is now open to external pressures. If anything, it is likely that the choice of REC to bid for was a matter of political expediency and establishing which companies were not already in discussion with potential bidders.

There are other cases where regulated companies have reacted to economic factors by launching hostile bids in a hope to exploit economies of scale and scope. One such example is the US rail industry. The details of a recent hostile bid are set out in the Table 4.4, below.

Table 4.4: Hostile bid in the US rail industry

Bidder	Sector	Target	Sector	Comment
Union Pacific	Rail	Santa Fe Pacific	Rail	Unsolicited hostile bid was made after Burlington Northern made a friendly bid. Union withdrew after the offer price was raised

Source: Financial Times, various editions, January and February 1995.

Another hostile bid that was launched in the US concerned the El Paso Electric Company, discussed in Section 2. While the company was undergoing Chapter 11 proceedings in 1994, it agreed a friendly bid from the Central & South West Corporation. However, the Southwestern Public Service Corporation launched a hostile bid that eventually failed.

4.5 Conclusions

It would appear that the market for corporate control is able to exert influence over the incentive management has to achieve efficiency, but that this influence can be weakened by the existence of institutional barriers and barriers specific to takeover.

5. Conclusions, Implications and Recommendations

Having considered the various ways in which incentives are forced on private infrastructure companies, this section will summarise what has been found and assess the implications of the findings.

5.1 Available measures

There are various measures available for imposing efficiency incentives on a company's management. These are discussed below.

5.1.1 Bankruptcy

For most companies, the threat of bankruptcy acts as the ultimate incentive to be efficient. However, on the whole, infrastructure companies appear to be protected from this for two reasons. First, the regulatory bodies are often expected to ensure security of supply. This makes it difficult to allow disruptions from bankruptcy proceedings. Secondly, the need to create a stable environment within which companies will undertake the desired investment requires significant protection against bankruptcy. This leads to the likelihood of bankruptcy being limited to specific factors, such as the disallowal of investment. These factors are dependent on the regulatory regime that is in place.

Overall, for bankruptcy to be a credible source of incentives, it must either be possible for the service to be passed to an alternative supplier quickly and with little cost, or the regulatory framework must be such that supply can be continued while the company undergoes restructuring (for example, Chapter 11 in the US). The first of these criteria can be met by having multiple operators, such as regional monopolies, rather than a single national monopoly.

5.1.2 Investor pressure: management incentives

Providing the management of a company with direct incentives by linking their remuneration to the performance of the company is an obvious source of pressure for efficiency. It does not appear to have been widely used in the past, since, where high-powered remuneration packages exist, they traditionally took the form of share options that were purely linked to the share price rather than other performance measures.

This approach does seem to be changing and could readily be employed in all private infrastructure companies rather than just those that are quoted.

5.1.3 Investor pressure: direct shareholder action

Managers are not only worried about their remuneration, but also whether they have a job. The ability of investors to hire and fire executive directors should provide them with a simple disciplining factor for inefficient managers. However, for this to be a successful incentive, the investors need to be able to act in concert. This requires either a significant minority holder or a group of proactive institutional shareholders—or association of shareholders. The first is common in some countries and under certain models of privatisation—especially when financial markets are not sufficiently developed to handle the full flotation of a major company. The second is becoming increasingly prevalent in the UK and the US. This disciplining factor is therefore likely to become more important as time progresses.

5.1.4 Investor pressure: Debt covenants

A final way in which investors can directly influence the incentives on the management of a company is through the covenants attached to any debt raised to finance the company. However, by their nature the covenants are set to provide lenders with surety of return rather than efficient production of a service.

5.1.5 Hostile takeovers

Investors do not have to take direct action themselves as they can walk away from a company. This has manifested itself in the development of hostile takeovers for poorly performing companies. These are, however, a feature of UK- and US-style markets rather than all financial markets and, even in the UK and the US, significant takeover defences are available. Many infrastructure companies have been provided with defences by their governments at the time of privatisation, especially in the form of golden shares and shareholder limits. Hostile takeovers have therefore played only a minor role until now and that would appear to be concentrated in the UK and US.

5.2 Evidence on efficiency

Although there are several possible external influences that can lead to private infrastructure companies being forced to be efficient, there are clearly limits on the impact that they can have. However, private infrastructure companies have repeatedly proven to be more efficient than public companies, particularly when competition has not been introduced. Consider the evidence set out in Table 5.1 on UK efficiency.

Table 5.1: Pre- and post-privatisation annual efficiency gains in the UK (%)

Sector	Before privatisation	After privatisation
Gas regions	3.0 [1977–82]	6.0 [1987–92]
RECs	2.6 [1971–90]	3.1 [1991–93]

Note: Efficiency is measured on a Malmquist Index basis.

Sources: Burns, P. and Weyman-Jones, T. (1994), *The Performance of the Electricity Distribution Businesses—England & Wales, 1977–1993*, Centre for the Study of Regulated Industries. Price, C. and Weyman-Jones, T. 'Malmquist Indices of Productivity Change in the UK Gas Industry Before and After Privatisation', Discussion Paper No. 12, University of Loughborough.

The evidence therefore points to significant changes in efficiency, even though the evidence on the impact of any single pressure for general incentives is limited. It would appear that the mixture of price regulation involving yardstick comparisons, the introduction of competition where possible, performance-related pay and the threat of takeover all combine to produce these efficiency gains.

5.3 Implications for the design of an infrastructure incentive scheme

This evidence suggests that the privatisation of infrastructure companies is unlikely to lead to any greater pressure for efficiency in the company than when it was under state control, unless the following elements exist.

- A credible performance-based management remuneration package.

By itself this is unlikely to lead to the efficient outcome, especially if financial elements dominate the package.

- Either a significant minority stakeholder that has direct influence over the management of the company, or few barriers to takeover, so that external pressure can be brought on inefficient management.

These first two elements will help ensure good financial performance but will not necessarily lead to the most efficient allocation of resources. Also, customers may be prone to exploitation by the operator. To ensure that this is controlled the third element is required.

- Some form of price and quality regulation, although the type that is chosen will have an impact on the forces to which the company is exposed.

Including regulation will protect the consumer. However, the credibility of the bankruptcy threat will need to be enhanced. This can be achieved by the fourth element of the structure.

- A regulatory system which is able to cope with companies undergoing restructuring, and enable supply of essential services to continue: this can be achieved either through multiple operators, fixed-term contracts, or termination clauses in licences, which allow the public sector to retain control. However, these can provide the operator with an incentive to act in a deliberately perverse manner towards the provision of the service.

Unless these conditions exist, or full competition is established in the product market, it is unlikely that the company will face enough pressure to force it to become fully efficient. Although it may prove difficult to establish all these criteria in developing countries, it should be possible to put sufficient discipline in place to provide companies with incentives to become more efficient.

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